

IRB NUMBER: 11841 IRB APPROVAL DATE: 12/22/2020

You are invited to participate in research regarding socially sustainable solutions for water, carbon and infrastructure resilience in Oklahoma. This study will ask you about your perceptions and experiences with weather/climate in Oklahoma, and to characterize and evaluate problem areas and potential solutions to weather/climate challenges. This is an important long-term study and we are looking for research partners throughout the state who are willing to share their experiences and views. We are contacting you because you indicated an interest in participating. You must be at least 18 years of age and be willing to provide your contact information to participate.

If you agree to participate, you will respond to an Internet survey that should take about 30 minutes to complete.

There are no risks or benefits.

If you participate, you will receive a \$10 gift card, either mailed or emailed to you after you complete the survey.

Your participation is voluntary, and your responses will be de-identified before they are shared for research purposes or published. After removing all identifiers, we might share your data with other researchers or use it in future research without obtaining additional consent from you.

Even if you choose to participate now you may stop participating at any time and for any reason.

Data are collected via an online survey system that has its own privacy and security policies for keeping your information confidential.

If you have questions about this research, please contact:

Dr. Hank Jenkins-Smith
Center for Risk and Crisis Management
University of Oklahoma
(405) 325-1720 or crcm@ou.edu

You can also contact the University of Oklahoma – Norman Campus Institutional Review Board at 405-325-8110 or irb@ou.edu with questions, concerns or complaints about your rights as a research participant, or if you don't want to talk to the researcher.

Please print this document for your records. By providing information to the researcher(s), I am agreeing to participate in this research.

18_consent: Are you 18 years of age or older?

0 - No (If no – cannot participate)

1 - Yes

contact_consent: This project focuses on problems that are different across Oklahoma and it is important that we know where you live so that we can understand the problems in your area. Are you willing to provide us with your home address so that we can identify your area?

0 - No (If no – cannot participate)

1 - Yes

consent: Do you agree to participate in this study? [two buttons]

0 - No, I do not want to participate in this study

1 - Yes, I agree to participate in this study [IF **consent** = 0, skip to new page that says: “You have indicated that you do not want to participate in this study. If you have reached this page by accident and do wish to participate in this study, please contact our technical support staff at: (405) 325- 1720 or crcm@ou.edu.”]

Thank you for participating in this study. The survey you are about to complete is different than most. We are not simply asking for opinions and preferences. We are asking for advice and guidance on how to tackle some of the biggest problems facing Oklahoma. While we will keep your identity strictly confidential, we are going to share the answers you provide with a team of scientists and policymakers across the state who are studying these problems and trying to develop creative solutions. Your responses will provide extremely valuable input into this process.

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First, we would like to get some background information about you.

age: How old are you? [verbatim; numeric]

gender: Are you male, female, or other?

0 - Female

1 - Male

2 - Other (please specify)

gend_specify: [verbatim]

hispanic: Do you consider yourself to be Hispanic, Latino, or Spanish or to have Hispanic, Latino, or Spanish origins?

0 - No

1 - Yes

race: Which of the following best describes your race?

1 - White

2 - Black or African American

3 - American Indian or Alaska Native

4 - Asian

5 - Native Hawaiian or Pacific Islander

6 - Two or more races

7 - Some other race (please specify)

race_spec: [verbatim]

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current_zip: What is the zip code at your current residence? [verbatim; numeric]

current_lngth: How many years have you lived at your current residence? [verbatim; numeric] years

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ok_lngth: How many years have you lived in Oklahoma? [verbatim; numeric] years

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home_lot: Which of the following best describes the property where you live?

1 - Urban

2 - Suburban

3 - Rural

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Now we have some questions about three resources in Oklahoma that affect prosperity and quality of life in many parts of the state --- *water*, *land*, and *infrastructure*. The scientists and policymakers who are part of this project are working in teams to evaluate different aspects of each resource. We want to know if you have any concerns about these resources.

We are currently thinking about three aspects when evaluating *water resources* in Oklahoma:

- Water availability: the supplies of water for various purposes, such as drinking, farming/ranching, or industrial or business processes
- Water quality: the suitability (cleanliness) of water for various purposes, such as drinking or irrigation
- Water cost: the cost of water for various purposes, such as such as drinking, farming/ranching, or industrial or business processes

concern_water_availability: Do you have any concerns about *water availability* in your region of Oklahoma?

- 1 - Definitely no
- 2 - Probably no
- 3 - Unsure
- 4 - Probably yes
- 5 - Definitely yes

concern_water_quality: Do you have any concerns about *water quality* in your region of Oklahoma?

- 1 - Definitely no
- 2 - Probably no
- 3 - Unsure
- 4 - Probably yes
- 5 - Definitely yes

concern_water_cost: Do you have any concerns about the *cost of water* in your region of Oklahoma?

- 1 - Definitely no
- 2 - Probably no
- 3 - Unsure
- 4 - Probably yes
- 5 - Definitely yes

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We are currently thinking about two aspects when evaluating *land resources* in Oklahoma:

- Wildlife habitat: ecosystems that support animals and birds that people enjoy watching and hunting, such as butterflies, deer, quail, and turkey
- Soil quality: the suitability of soil for sustaining plants, animals, and livelihoods, such as productive farming and ranching

concern_land_wildlife: Do you have any concerns about *wildlife habitat* in your region of Oklahoma?

- 1 - Definitely no
- 2 - Probably no
- 3 - Unsure
- 4 - Probably yes
- 5 - Definitely yes

concern_land_soil: Do you have any concerns about *soil quality* in your region of Oklahoma?

- 1 - Definitely no
- 2 - Probably no
- 3 - Unsure
- 4 - Probably yes
- 5 - Definitely yes

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We are currently thinking about two aspects when evaluating *infrastructure* in Oklahoma:

- Electricity infrastructure: the generation facilities, substations, and transmission and distribution lines that deliver electricity to businesses and homes

- Transportation infrastructure: the roads, bridges, waterways, railways, and airways that facilitate transportation from place to place

concern_infra_electricity: Do you have any concerns about *electricity infrastructure* in your region of Oklahoma?

- 1 - Definitely no
- 2 - Probably no
- 3 - Unsure
- 4 - Probably yes
- 5 - Definitely yes

concern_infra_transportation: Do you have any concerns about *transportation infrastructure* in your region of Oklahoma?

- 1 - Definitely no
- 2 - Probably no
- 3 - Unsure
- 4 - Probably yes
- 5 - Definitely yes

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If you were advising the scientists and policymakers who are working on this project, which of the following would you tell them require the most attention? Please rank the items from one (most attention) to six (least attention).
[table; randomize; rank]

- rank_water_availability:** Water availability
- rank_water_quality:** Water quality
- rank_water_cost:** Water cost
- rank_land_wildlife:** Wildlife habitat
- rank_land_soil:** Soil quality
- rank_infra_electricity:** Electricity infrastructure
- rank_infra_transportation:** Transportation infrastructure

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[**top_rank** = 1 from **rank_water_availability** to **rank_infra_transportation**]

It looks like you believe that [**top_rank**] requires the most attention.

Can you tell us who/what is causing problems with [**top_rank**] in Oklahoma? Please select all that apply.

- top_problem_cause_ag:** Agricultural activities
- top_problem_cause_ind:** Industrial activities
- top_problem_cause_in_reg:** Insufficient regulation
- top_problem_cause_ex_reg:** Excessive regulation
- top_problem_cause_inf:** Aging or inadequate infrastructure
- top_problem_cause_pop:** Population growth or urbanization
- top_problem_cause_wx:** Weather/nature
- top_problem_cause_other_specify:** Something else (please specify) [verbatim]

top_problem_solve: Do you have any ideas about what might solve problems with [**top_rank**] in Oklahoma?
[verbatim]

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Researchers and policymakers are also studying the impact of weather and climate hazards on *water, land, and infrastructure* resources in Oklahoma. The team is focusing on forecasts/predictions at three different time scales:

- Short-range weather forecasts that focus on the next day to two weeks
- Medium-range (seasonal) weather forecasts that focus on the next two weeks to 90 days

- Long-range climate predictions that focus on the next season to decade or more

Weather hazards that occur during the short-range weather time frame include tornadoes, hail, high winds, lightning, flooding/flash flooding and snow/ice storms.

How do you rate the risk of these weather hazards to people in Oklahoma? [table; randomize]

risk_tornado: Tornadoes

- 1 - No risk
- 2 - Low risk
- 3 - Moderate risk
- 4 - High risk
- 5 - Extreme risk

risk_hail: Hail

- 1 - No risk
- 2 - Low risk
- 3 - Moderate risk
- 4 - High risk
- 5 - Extreme risk

risk_wind: High winds

- 1 - No risk
- 2 - Low risk
- 3 - Moderate risk
- 4 - High risk
- 5 - Extreme risk

risk_lightning: Lightning

- 1 - No risk
- 2 - Low risk
- 3 - Moderate risk
- 4 - High risk
- 5 - Extreme risk

risk_flood: Flooding/flash flooding

- 1 - No risk
- 2 - Low risk
- 3 - Moderate risk
- 4 - High risk
- 5 - Extreme risk

risk_snow_ice: Snow/ice storms

- 1 - No risk
- 2 - Low risk
- 3 - Moderate risk
- 4 - High risk
- 5 - Extreme risk

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Did you experience any of these weather hazards in the last 6 months? [table; randomize]

experience_tornado: Tornadoes

- 0 - No
- 1 - Yes

experience_hail: Hail

- 0 - No
- 1 - Yes

experience_wind: High winds

- 0 - No
- 1 - Yes

experience_lightning: Lightning

- 0 - No
- 1 - Yes

experience_flood: Flooding/flash flooding

- 0 - No
- 1 - Yes

experience_snow_ice: Snow/ice storms

- 0 - No
- 1 - Yes

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When you think about the next 25 years in Oklahoma, do you think the risk (frequency and severity) of these weather hazards will increase, decrease, or stay about the same? [table; randomize]

future_tornado: Tornadoes

- 1 - Significantly decrease
- 2 - Decrease
- 3 - Stay about the same
- 4 - Increase
- 5 - Significantly increase

future_hail: Hail

- 1 - Significantly decrease
- 2 - Decrease
- 3 - Stay about the same
- 4 - Increase
- 5 - Significantly increase

future_wind: High winds

- 1 - Significantly decrease
- 2 - Decrease
- 3 - Stay about the same
- 4 - Increase
- 5 - Significantly increase

future_lightning: Lightning

- 1 - Significantly decrease
- 2 - Decrease
- 3 - Stay about the same
- 4 - Increase
- 5 - Significantly increase

future_flood: Flooding/flash flooding

- 1 - Significantly decrease

- 2 - Decrease
- 3 - Stay about the same
- 4 - Increase
- 5 - Significantly increase

future_snow_ice: Snow/ice storms

- 1 - Significantly decrease
- 2 - Decrease
- 3 - Stay about the same
- 4 - Increase
- 5 - Significantly increase

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Hazards that occur during the medium-range (seasonal) weather time frame include:

- Flash drought: periods of intense drought that arise quickly and last for a few weeks
- Pluvials: periods of excessive precipitation that last for a few weeks
- Heat waves: periods of excessively hot temperatures that last for a few weeks
- Cold spells: periods of excessively cold temperatures that last for a few weeks

How do you rate the risk of these seasonal hazards to people in Oklahoma? [table; randomize]

risk_flash_drought: Flash drought

- 1 - No risk
- 2 - Low risk
- 3 - Moderate risk
- 4 - High risk
- 5 - Extreme risk

risk_pluvial: Pluvials (periods of excessive precipitation)

- 1 - No risk
- 2 - Low risk
- 3 - Moderate risk
- 4 - High risk
- 5 - Extreme risk

risk_heat_wave: Heat waves

- 1 - No risk
- 2 - Low risk
- 3 - Moderate risk
- 4 - High risk
- 5 - Extreme risk

risk_cold_spell: Cold spells

- 1 - No risk
- 2 - Low risk
- 3 - Moderate risk
- 4 - High risk
- 5 - Extreme risk

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Did you experience any of these seasonal hazards in the last 6 months? [table; randomize]

experience_flash_drought: Flash drought

- 0 - No

1 - Yes

experience_pluvial: Pluvials (periods of excessive precipitation)

0 - No

1 - Yes

experience_heat_wave: Heat waves

0 - No

1 - Yes

experience_cold_spell: Cold spells

0 - No

1 - Yes

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When you think about the next 25 years in Oklahoma, do you think the risk (frequency and severity) of these seasonal hazards will increase, decrease, or stay about the same? [table; randomize]

future_flash_drought: Flash drought

1 - Significantly decrease

2 - Decrease

3 - Stay about the same

4 - Increase

5 - Significantly increase

future_pluvial: Pluvials (periods of excessive precipitation)

1 - Significantly decrease

2 - Decrease

3 - Stay about the same

4 - Increase

5 - Significantly increase

future_heat_wave: Heat waves

1 - Significantly decrease

2 - Decrease

3 - Stay about the same

4 - Increase

5 - Significantly increase

future_cold_spell: Cold spells

1 - Significantly decrease

2 - Decrease

3 - Stay about the same

4 - Increase

5 - Significantly increase

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There are multiple hazards that occur during the long-range climate time frame, but one of the most common in Oklahoma is long-term drought, which can last for several months.

risk_long_drought: How do you rate the risk of long-term drought to people in Oklahoma?

1 - No risk

2 - Low risk

3 - Moderate risk

- 4 - High risk
- 5 - Extreme risk

experience_long_drought: Did you experience long-term drought in the last 6 months?

- 0 - No
- 1 - Yes

future_long_drought: When you think about the next 25 years in Oklahoma, do you think the risk (frequency and severity) of long-term drought will increase, decrease, or stay about the same?

- 1 - Significantly decrease
- 2 - Decrease
- 3 - Stay about the same
- 4 - Increase
- 5 - Significantly increase

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In addition to weather and climate hazards, Oklahoma also experiences other natural hazards, including wildfires and earthquakes.

How do you rate the risk of these hazards to people in Oklahoma? [table; randomize]

risk_wildfire: Wildfires

- 1 - No risk
- 2 - Low risk
- 3 - Moderate risk
- 4 - High risk
- 5 - Extreme risk

risk_earthquake: Earthquakes

- 1 - No risk
- 2 - Low risk
- 3 - Moderate risk
- 4 - High risk
- 5 - Extreme risk

Did you experience any of these hazards in the last 6 months? [table; randomize]

experience_wildfire: Wildfires

- 0 - No
- 1 - Yes

experience_earthquake: Earthquakes

- 0 - No
- 1 - Yes

When you think about the next 25 years in Oklahoma, do you think the risk (frequency and severity) of these hazards will increase, decrease, or stay about the same? [table; randomize]

future_wildfire: Wildfires

- 1 - Significantly decrease
- 2 - Decrease
- 3 - Stay about the same
- 4 - Increase
- 5 - Significantly increase

future_earthquake: Earthquakes

- 1 - Significantly decrease
- 2 - Decrease
- 3 - Stay about the same
- 4 - Increase
- 5 - Significantly increase

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As you may know, the issue of global climate change has been the subject of public discussion over the last few years.

glbcc: In your view, are greenhouse gases, such as those resulting from the combustion of coal, oil, natural gas, and other materials, causing average global temperatures to rise?

- 0 - No
- 1 - Yes

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glbcc_cert: On a scale from zero to ten, where zero means *not at all certain* and ten means *completely certain*, how certain are you that greenhouse gases are/are not ["are" if **glbcc** = 1; "are not" if **glbcc** = 0] causing average global temperatures to rise?

- 0 - Not at all certain
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10 - Completely certain

glbcc_risk: On a scale from zero to ten, where zero means *no risk* and ten means *extreme risk*, how much risk do you think global warming poses for people and the environment?

- 0 - No risk
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10 - Extreme risk

glbwrn_ok: In your view, is global warming causing the weather patterns in Oklahoma to change?

- 0 - No
- 1 - Yes
- 2 - Don't know

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Solving problems as a group or community can be contentious and technically complex, so getting information you can trust is important. How much do you trust information from the following groups and organizations? [table; randomize]

trust_university: University scientists

- 1 - No trust
- 2 - Low trust
- 3 - Moderate trust
- 4 - High trust
- 5 - Complete trust

trust_nonprofit: Nonprofit research organizations

- 1 - No trust
- 2 - Low trust
- 3 - Moderate trust
- 4 - High trust
- 5 - Complete trust

trust_policy: State and local policymakers and elected officials

- 1 - No trust
- 2 - Low trust
- 3 - Moderate trust
- 4 - High trust
- 5 - Complete trust

trust_agencies: State and local agencies that regulate water, land, and infrastructure resources

- 1 - No trust
- 2 - Low trust
- 3 - Moderate trust
- 4 - High trust
- 5 - Complete trust

trust_private: Private companies whose operations use water, land, and infrastructure resources

- 1 - No trust
- 2 - Low trust
- 3 - Moderate trust
- 4 - High trust
- 5 - Complete trust

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attend_meeting: If given the opportunity, would you *attend a meeting* with policy leaders, business leaders, and scientists to discuss problems facing Oklahoma and how we might solve them?

- 1 - Definitely no
- 2 - Probably no
- 3 - Unsure
- 4 - Probably yes
- 5 - Definitely yes

advisory_committee: If given the opportunity, would you *serve on a citizen advisory committee* that routinely meets with policy leaders, business leaders, and scientists to discuss problems facing Oklahoma and how we might solve them?

- 1 - Definitely no
- 2 - Probably no
- 3 - Unsure
- 4 - Probably yes

5 - Definitely yes

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party: Generally speaking, do you usually think of yourself as a Republican, a Democrat, an Independent, or what?

- 1 - Democratic party
- 2 - Republican party (or GOP)
- 3 - Independent
- 4 - Other party (Please specify)

party_spec: [verbatim]

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[If **party** = 1 or 2]

iden: Would you call yourself a strong [Democrat if **party** = 1; Republican if **party** = 2] or a not very strong [Democrat if **party** = 1; Republican if **party** = 2]?

- 2 - Strong
- 1 - Not very strong

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[If **party** = 3 or 4]

lean: Do you think of yourself as closer to the Republican or Democratic Party?

- 1 - Democratic Party
- 2 - Republican Party
- 3 - Neither

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ideol: On a scale of political ideology, individuals can be arranged from strongly liberal to strongly conservative. Which of the following categories best describes your views?

- 1 - Strongly liberal
- 2 - Liberal
- 3 - Slightly liberal
- 4 - Middle of the road
- 5 - Slightly conservative
- 6 - Conservative
- 7 - Strongly conservative

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vote_nat: Do you usually vote in *national elections*, such as presidential and congressional elections?

- 0 - No
- 1 - Yes

vote_loc: Do you usually vote in *local elections*, such as mayor, city council, and school board elections?

- 0 - No
- 1 - Yes

talk_politics_friends: How often do you talk about politics and policy with people you know, like friends and family?

- 1 - Never
- 2 - Rarely
- 3 - Occasionally

- 4 - Regularly
- 5 - Frequently

talk_politics_strangers: How often do you talk about politics and policy with people you don't know, such as on Facebook or Twitter?

- 1 - Never
- 2 - Rarely
- 3 - Occasionally
- 4 - Regularly
- 5 - Frequently

participate_politics_inperson: How often do you participate in in-person political activities like protests and campaign activities or events?

- 1 - Never
- 2 - Rarely
- 3 - Occasionally
- 4 - Regularly
- 5 - Frequently

participate_politics_online: How often do you participate in online political activities like signing petitions and writing messages in groups that discuss politics?

- 1 - Never
- 2 - Rarely
- 3 - Occasionally
- 4 - Regularly
- 5 - Frequently

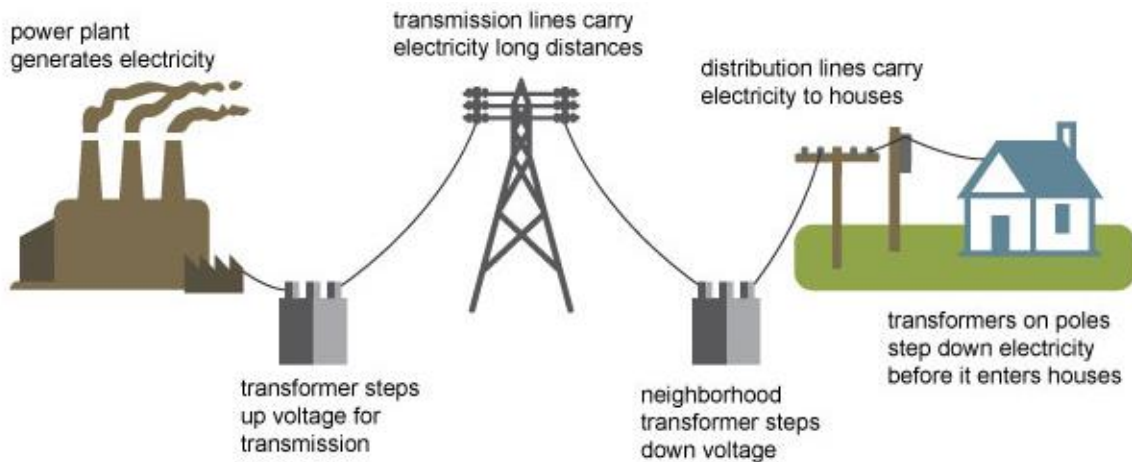
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[randomize: **grid_track**]

1 - In February 2021, Oklahoma experienced a major winter storm (“deep freeze”) with extremely low temperatures that strained the electric grid in many states, including Oklahoma.

0 - Next, we have some questions about electricity at your residence.

An electric grid is a complex network of generation, transmission, and distribution systems that carry electricity from power plants to people and businesses. In most places, electric grids are shared resources that everyone in the community relies on for electricity. ***Most people get electricity from an electric grid.***



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grid_dependent: Some people are extremely dependent on the electric grid; others are less dependent because they can rely on non-grid or “off-grid” electricity sources. How dependent are you on the electric grid in your local area?

- 1 – Not at all dependent
- 2 – Somewhat dependent
- 3 – Dependent
- 4 – Very dependent
- 5 – Extremely dependent

-----End Web pg -----

out_unplanned: All electric grids fail at times, resulting in electricity outages. Electricity outages, also known as power outages or blackouts, happen when residences and businesses lose power for more than a few seconds. The outages may result from multiple causes, including faulty equipment, weather events or other accidents, fuel shortages, deliberate attacks, or sudden surges in electricity use that put too much pressure on the system. How frequent are electricity outages at your residence?

- 1 – Not at all frequent
- 2 – Somewhat frequent
- 3 – Frequent
- 4 – Very frequent
- 5 – Extremely frequent

out_freq: As best you can recall, approximately how many outages did you have at your residence in the last year?

- 1 – 0
- 2 – Between 1 - 2
- 3 – Between 2 - 5
- 4 – 5 or more

grid_reliable: When you think about outages, how would you rate the reliability of the electric grid in your local area?

- 1 – Not at all reliable
- 2 – Somewhat reliable
- 3 – Reliable
- 4 – Very reliable
- 5 – Extremely reliable

out_cause: If you had to guess, what is the primary cause of electricity outages in your local area? [random order]

- 1 – Inefficient or faulty equipment
- 2 – Severe weather events
- 3 – Insufficient supply of electricity
- 4 – Surges in demand for electricity
- 5 – Something else (Please specify)

out_cause_specify: [verbatim]

-----End Web pg -----

Some people have equipment or devices that provide electricity during outages. Do you have any of the following?
Please select all that apply.

out_ups: Battery storage device

out_gen: Gas or diesel generator

out_none: No, I do not have any equipment or devices that provide electricity during outages

out_othr: Something else (Please specify)

out_othr_specify: [verbatim]

-----End Web pg -----

out_short: If a short-term 3 to 5 *hour* outage were to happen at your residence on a Saturday afternoon when it was [rand_temp: 15|95] degrees outside, what do you think you would do?

- 1 - Stay at home and go without electricity
- 2 - Stay at home and rely on an alternative source of electricity
- 3 - Leave home to stay at a location with electricity
- 4 - Something else (Please specify)

out_short_specify: [verbatim]

out_med: If a medium-term 1 to 2 *day* outage were to happen at your residence starting on a Saturday afternoon when it was [rand_temp: 15|95] degrees outside, what do you think you would do?

- 1 - Stay at home and go without electricity
- 2 - Stay at home and rely on an alternative source of electricity
- 3 - Leave home to stay at a location with electricity
- 4 - Something else (Please specify)

out_med_specify: [verbatim]

out_long: If a long-term 5 to 7 *day* outage were to happen at your residence starting on a Saturday afternoon when it was [rand_temp: 15|95] degrees outside, what do you think you would do?

- 1 - Stay at home and go without electricity
- 2 - Stay at home and rely on an alternative source of electricity
- 3 - Leave home to stay at a location with electricity
- 4 - Something else (Please specify)

out_long_specify: [verbatim]

-----End Web pg -----

util_type: Many people and groups are responsible for maintaining the electric grid, including the utility companies that provide electric service to people and businesses that consume electricity. Do you know what type of electric utility serves your home?

- 1 - A private (investor-owned) utility company like Oklahoma Gas and Electric (OG&E) or Public Service Company of Oklahoma (PSO)
- 2 - An electric cooperative like the Oklahoma Electric Cooperative (OEC) or Central Electric Cooperative
- 3 - A government (city- or town-owned) utility like Edmond Electric or Stillwater Electric Utility
- 4 - Not sure

util_trust: How much trust do you have in the electric utility that maintains the grid in your area?

- 1 - No trust
- 2 - Low trust
- 3 - Moderate trust
- 4 - High trust
- 5 - Complete trust

-----End Web pg -----

In some cases, government agencies like the Oklahoma Corporation Commission also play a role in maintaining the grid because they enforce rules and regulations.

util_trust_gov: How much trust do you have in government agencies that maintain the electric grid in your area?

- 1 - No trust
- 2 - Low trust
- 3 - Moderate trust
- 4 - High trust
- 5 - Complete trust

-----End Web pg -----

In rare cases, it is necessary for people and businesses to conserve electricity to maintain grid operations.

cons_trust: If your utility asks its customers to voluntarily reduce electric consumption/conserve electricity, how much trust do you have that these people and businesses in your area will voluntarily conserve electricity to maintain grid operations?

- 1 - No trust
- 2 - Low trust
- 3 - Moderate trust
- 4 - High trust
- 5 - Complete trust

-----End Web pg -----

Electric grids face risks from accidents, natural disasters, and deliberate physical and cyber-attacks that can cause severe, long lasting electricity outages that impact large portions of the population. In addition to harming quality of life, these outages can have significant impacts on economic well-being and public safety. [randomized table]

grid_risk_you: How would you rate the risk of severe electricity outages to you and the people you live with?

- 1 - No risk
- 2 - Low risk
- 3 - Moderate risk
- 4 - High risk
- 5 - Extreme risk

grid_risk_econ: How would you rate the risk of severe electricity outages to economic well-being in Oklahoma?

- 1 - No risk
- 2 - Low risk
- 3 - Moderate risk
- 4 - High risk
- 5 - Extreme risk

grid_risk_safe: How would you rate the risk of severe electricity outages to public safety in Oklahoma?

- 1 - No risk
- 2 - Low risk
- 3 - Moderate risk
- 4 - High risk
- 5 - Extreme risk

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Officials in private companies and government organizations are considering a program that will reduce the risks of severe electric outages. The program is expensive, but estimates suggest that it will reduce the risk of severe electricity outages by [**reduc:** 10%, 40%, 70%] in Oklahoma.

vote: Imagine that government officials were asking you to vote on the program. If it would not cost you anything, would you vote *for* or *against* the program to improve the electric grid in Oklahoma?

- 1 – Vote *for* the program
- 2 – Vote *against* the program
- 3 – Not sure

-----End Web pg -----

[ask if **vote** = 1]

wtp: Would you vote for the grid improvement program if it were to increase your electricity bill by [randomize **bid**: \$1:30] each month for the next 120 months (10 years)?

0 – No

1 – Yes

2 – Not sure

-----End Web pg -----

[ask if **wtp** = 1]

wtp_con: On a scale from zero to ten, where zero means *not at all certain* and ten means *completely certain*, how certain are you that you would vote for the program if it would cost your household [**bid**] each month for the next 120 months?

0 – Not at all certain

1

2

3

4

5

6

7

8

9

10 – Completely certain

-----End Web pg -----

[ask if **wtp** = 1]

wtp_yes: Can you tell us why you would vote for the program? Please select the most important reason.

[Randomize]

1 - I think the program would improve MY quality of life

2 - I think the program would reduce economic risks in Oklahoma.

3 - I think the program would reduce public safety risks in Oklahoma.

4 - Something else (Please specify)

wtp_yes_specify: [verbatim]

-----End Web pg -----

[ask if **wtp** = 0]

wtp_no: Can you tell us why you would vote against the program? Please select the most important reason.

[Randomize]

1 - I don't think the electric grid needs improvement

2 - I already pay too much for my electricity bill

3 - I can't afford anything at this time

4 - I think the cost is too high

5 - The reduced severity of outages is not worth it to me

6 - I need more information before committing my money

7 - I would rather spend the money on my own backup source of electricity

8 - I don't trust the people and groups (private companies, government agencies, and people and businesses) who are responsible for maintaining the grid

9 - Something else (Please specify)

wtp_no_specify: [verbatim]

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We have one more question about electricity.

In 20 years, it will be the year 2041. Thinking about what electricity looks like 20 years from now in Oklahoma, what percentage of total electricity in the state should come from each of these sources? NOTE: The sum of the six boxes below must equal 100. [table; randomize; must sum to 100%]

By 2041, what percent of our electricity should come from...

gas: Natural gas (currently provides about 52% of total electricity in Oklahoma) [verbatim]%

wind: Wind (currently provides about 35% of total electricity in Oklahoma) [verbatim]%

coal: Coal (currently provides about 6% of total electricity in Oklahoma) [verbatim]%

hydro: Hydropower (currently provide about 5% of total electricity in Oklahoma) [verbatim]%

solar: Solar (currently provides less than 1% of total electricity in Oklahoma) [verbatim]%

nuclear: Nuclear (currently provides no electricity in Oklahoma) [verbatim]%

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education: What is the highest level of education you have COMPLETED?

- 1 - Less than High School
- 2 - High School / GED
- 3 - Vocational or Technical Training
- 4 - Some College — NO degree
- 5 - 2-year College / Associate's Degree
- 6 - Bachelor's Degree
- 7 - Master's degree
- 8 - PhD / JD (Law) / MD

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inc: Was the estimated annual income for your household in 2020:

- 1 - Less than \$50,000 [skip to **inc50**]
- 2 - At least \$50,000 but less than \$100,000 [skip to **inc100**]
- 3 - At least \$100,000 but less than \$150,000 [skip to **inc150**]
- 4 - \$150,000 or more [skip to **inc200**]

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inc50: Was the estimated annual income for your household in 2020:

- 1 - Less than \$10,000
- 2 - \$10,000 to less than \$20,000
- 3 - \$20,000 to less than \$30,000
- 4 - \$30,000 to less than \$40,000
- 5 - \$40,000 to less than \$50,000

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inc100: Was the estimated annual income for your household in 2020:

- 6 - \$50,000 to less than \$60,000
- 7 - \$60,000 to less than \$70,000
- 8 - \$70,000 to less than \$80,000

- 9 - \$80,000 to less than \$90,000
- 10 - \$90,000 to less than \$100,000

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inc150: Was the estimated annual income for your household in 2020:

- 11 - \$100,000 to less than \$110,000
- 12 - \$110,000 to less than \$120,000
- 13 - \$120,000 to less than \$130,000
- 14 - \$130,000 to less than \$140,000
- 15 - \$140,000 to less than \$150,000

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inc200: Was the estimated annual income for your household in 2020:

- 16 - \$150,000 to less than \$160,000
- 17 - \$160,000 to less than \$170,000
- 18 - \$170,000 to less than \$180,000
- 19 - \$180,000 to less than \$190,000
- 20 - \$190,000 to less than \$200,000
- 21 - \$200,000 or more

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inc_next: Do you expect your estimated annual income for your household in 2021 to be...

- 1 - Less than it was in 2020
- 2 - About the same as it was in 2020
- 3 - More than it was in 2020

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As part of this project, we are inviting a select group of people to participate in a citizen science initiative where we are asking participants to provide pictures of a nearby landscape using smartphone app called **Field Photo 2**. In exchange for participating, participants will receive an extra \$10 gift card.

smartphone: Do you have a smartphone that can download applications and take pictures?

- 0 - No
- 1 - Yes

citizen_science: Are you willing to download and use **Field Photo 2** to provide pictures of a nearby landscape?

- 0 - No
- 1 - Yes

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Thank you very much for completing this survey. Your responses will help our team of scientists and policymakers identify and solve some of the biggest problems facing Oklahoma. As a token of our appreciation, you will be receiving a \$10 gift card by mail or email in the next few weeks.

giftcard_selection: Please select the type of gift card you would most like to receive from the four options shown below. You will be able to change your selection each time you complete the survey. Please note, if you do not select from the choices below, we will select a \$10 Walmart gift card for you.

- 1 - \$10 Walmart gift card
- 2 - \$10 Sonic gift card [limit to first 100]
- 3 - \$10 Braum's gift card [limit to first 100]
- 4 - \$10 Amazon **e-card (will be sent via email)**

Please verify that our records are correct: [verbatim; autofill with prior data if available]

confirm_fname: First name: [verbatim]

confirm_lname: Last name: [verbatim]

confirm_address: Address: [verbatim]

confirm_city: city: [verbatim]

state: Oklahoma

confirm_zip: zip: [verbatim; 5-digit numeric]

confirm_county: What is the name of the county where you live? [drop down list of counties]

confirm_phone: Phone: [verbatim; numeric]

confirm_email: Email: [verbatim]

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[If **smartphone** = 1 and **citizen_science** = 1 and participant is one of the first 500 to qualify]

Thank you for volunteering to participate in our citizen science project! To participate, please follow these directions:

(1) Use your smartphone application store (such as the Apple App Store or Google Play) to find and download **Field Photo 2**

(2) Open **Field Photo 2** and create an account using the email address we have on file: [autofill]

(3) Follow these instructions to take and upload pictures of a nearby landscape within 1 week of completing this survey. [video in webpage: <http://www.comf.ou.edu/static/Field%20Photo%20Animation%20Draft%2003.mp4>]

(4) That's it! We will watch for your pictures and mail you a gift card within a few weeks of receiving them!

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[If **smartphone** = 1 and **citizen_science** = 1 and participant is not one of the first 500 to qualify]

Thank you for volunteering to participate in our citizen science project. We will provide instructions for participating on the next survey!

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Thank you very much for your participation in the Oklahoma Weather, Society and Government Survey! We greatly appreciate your time and attention. As a token of our appreciation, you will be receiving a \$10 gift card by mail or email within the next few weeks.